



# **STIC Search Report**

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**Location: 3d65 / 3c18**  
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### **Search Notes**

=> b hcap

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L39 ANSWER 1 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN  
AN 2006:152797 HCAPLUS  
DN 144:385388  
ED Entered STN: 19 Feb 2006  
TI Fluorescence Probe with a pH-Sensitive Trigger  
AU Galande, Amit K.; Weissleder, Ralph; Tung, Ching-Hsuan  
CS Center for Molecular Imaging Research, Massachusetts General Hospital, Charlestown, MA, 02129, USA  
SO Bioconjugate Chemistry (2006), 17(2), 255-257  
CODEN: BCCHES; ISSN: 1043-1802  
PB American Chemical Society  
DT Journal  
LA English  
CC 9-5 (Biochemical Methods)  
Section cross-reference(s): 34, 80  
AB Acid-catalyzed hydrolysis was used as the mechanism to design a new type of environmentally sensitive fluorescence probe. A mild and selective periodate oxidation of the 2-amino alc. of serine in the presence of a disulfide bond was developed to prepare dialdehyde peptides. Two identical fluorochrome hydrazide derivs. were then linked to the dialdehyde peptide forming an acid-labile hydrazone linkage. This self-quenched probe is weakly fluorescent at a physiol. pH of 7.4 but shows more than 3-fold fluorescence enhancement at pH 4.5.  
ST fluorescence probe pH sensitive trigger  
IT Hydrolysis  
(acid; fluorescence probe with pH-sensitive trigger based on acid-catalyzed hydrolysis of fluorochrome-dialdehyde peptide hydrazone)  
IT Peptides, preparation  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(dialdehyde; fluorescence probe with pH-sensitive trigger based on acid-catalyzed hydrolysis of fluorochrome-dialdehyde peptide hydrazone)  
IT Disulfide group  
Fluorescence  
Fluorescence quenching  
Fluorescent indicators  
Fluorometry  
pH  
(fluorescence probe with pH-sensitive trigger based on acid-catalyzed

hydrolysis of fluorochrome-dialdehyde peptide hydrazone)

IT Hydrazones  
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(fluorochrome-dialdehyde peptide; fluorescence probe with pH-sensitive trigger based on acid-catalyzed hydrolysis of fluorochrome-dialdehyde peptide hydrazone)

IT Oxidation  
(peptide; fluorescence probe with pH-sensitive trigger based on acid-catalyzed hydrolysis of fluorochrome-dialdehyde peptide hydrazone)

IT Dialdehydes  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(peptide; fluorescence probe with pH-sensitive trigger based on acid-catalyzed hydrolysis of fluorochrome-dialdehyde peptide hydrazone)

IT 882690-04-2P, CY5G2  
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(fluorescence probe with pH-sensitive trigger based on acid-catalyzed hydrolysis of fluorochrome-dialdehyde peptide hydrazone)

IT 882520-91-4  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(fluorescence probe with pH-sensitive trigger based on acid-catalyzed hydrolysis of fluorochrome-dialdehyde peptide hydrazone)

IT 882520-87-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(fluorescence probe with pH-sensitive trigger based on acid-catalyzed hydrolysis of fluorochrome-dialdehyde peptide hydrazone)

IT 7790-28-5, Sodium periodate  
RL: BUU (Biological use, unclassified); RGT (Reagent); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)  
(peptide oxidation with; fluorescence probe with pH-sensitive trigger based on acid-catalyzed hydrolysis of fluorochrome-dialdehyde peptide hydrazone)

RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (25) Zhang, Z; Pharm Res 2005, V22, P381 HCAPLUS

L39 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2006:11531 HCAPLUS  
 DN 144:102922  
 ED Entered STN: 06 Jan 2006  
 TI Fluorogenic enzyme activity assay using substrates containing fragmentable linkers  
 IN Graham, Ronald J.  
 PA Applera Corporation, USA  
 SO U.S. Pat. Appl. Publ., 53 pp.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 INCL 435007100; 435023000; 530317000; 435188500; 540140000  
 CC 7-1 (Enzymes)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US2006003383	A1	20060105	2005US-0147827	20050607
PRAI	2004US-577995P	P	20040607		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2006003383	INCL	435007100; 435023000; 530317000; 435188500; 540140000
	IPCI	C12Q0001-68 [I,A]; G01N0033-53 [I,A]; C12Q0001-37 [I,A]
	NCL	435/007.100
	ECLA	C12Q001/34; C12Q001/37; C12Q001/42; C12Q001/44

OS MARPAT 144:102922

AB Substrate compound-containing micelles and various compns., kits and methods for their preparation and use are provided. The substrate compound comprises a hydrophobic moiety capable of integrating the substrate compound into a micelle, a fluorescent moiety, a trigger moiety, and a linker moiety linking the hydrophobic moiety, the fluorescent moiety and the trigger moiety together. The substrate compound can be incorporated into a micelle and subjected to conditions effective to allow activation of the trigger moiety by a trigger agent. Activation of the trigger moiety initiates a spontaneous rearrangement that results in the fragmentation of the substrate compound to release either the fluorescent moiety or the hydrophobic moiety, thereby increasing the fluorescent signal produced by the fluorescent moiety. Exemplary preparation of a substrate compound that comprises a linker moiety that fragment via a 1,6-elimination reaction is reported.

ST enzyme detn fluorogenic assay linker fragmentation elimination micelle

IT Antibodies and Immunoglobulins

RL: ANT (Analyte); ANST (Analytical study)

(catalytic; fluorogenic enzyme activity assay using substrates containing fragmentable linkers)

IT Fluorescent dyes

(cyanine; fluorogenic enzyme activity assay using substrates containing fragmentable linkers)

IT Cyanine dyes

(fluorescent; fluorogenic enzyme activity assay using substrates containing fragmentable linkers)

IT Fluorescence quenching

Fluorescent indicators

Fluorometry

Fragmentation reaction

Linking agents

Micelles

(fluorogenic enzyme activity assay using substrates containing fragmentable linkers)

IT Enzymes, analysis

RL: ANT (Analyte); ANST (Analytical study)

(fluorogenic enzyme activity assay using substrates containing fragmentable linkers)

IT Reduction

(fragmentation triggered in reducing conditions; fluorogenic enzyme activity assay using substrates containing fragmentable linkers)

IT Cyclization  
Elimination reaction  
(fragmentation via; fluorogenic enzyme activity assay using substrates containing fragmentable linkers)

IT Molecules  
(hydrophobic, substrate containing hydrophobic moiety; fluorogenic enzyme activity assay using substrates containing fragmentable linkers)

IT Fatty acids, uses  
Glycerophospholipids  
Phospholipids, uses  
Sphingolipids  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(substrate containing; fluorogenic enzyme activity assay using substrates containing fragmentable linkers)

IT Lactonization  
(tri-Me lock, fragmentation via; fluorogenic enzyme activity assay using substrates containing fragmentable linkers)

IT Fluorescent dyes  
(xanthene, fluorescein, rhodamine, phthalocyanine, squaraine or bodipy; fluorogenic enzyme activity assay using substrates containing fragmentable linkers)

IT 9001-62-1, Lipase 9001-90-5, Plasmin 9002-07-7, Trypsin 9013-05-2, Phosphatase 9013-79-0, Esterase 9014-06-6, Penicillin G acylase 9031-98-5, Carboxypeptidase 9032-92-2, Glycosidase 9074-87-7, Carboxypeptidase G2  
RL: ANT (Analyte); ANST (Analytical study)  
(fluorogenic enzyme activity assay using substrates containing fragmentable linkers)

IT 872676-93-2 872676-94-3 872676-95-4 872676-96-5 872676-97-6  
RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)  
(fluorogenic enzyme activity assay using substrates containing fragmentable linkers)

IT 9001-92-7, Proteinase  
RL: ANT (Analyte); ANST (Analytical study)  
(protease; fluorogenic enzyme activity assay using substrates containing fragmentable linkers)

IT 872676-92-1P  
RL: ARG (Analytical reagent use); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(substrate preparation; fluorogenic enzyme activity assay using substrates containing fragmentable linkers)

IT 544-63-8, Myristic acid, reactions 3011-34-5, 4-Hydroxy-3-nitrobenzaldehyde 3068-32-4 18162-48-6, tert-Butyldimethylsilyl chloride 141749-41-9, 5-(Aminomethyl)fluorescein hydrochloride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(substrate preparation; fluorogenic enzyme activity assay using substrates containing fragmentable linkers)

IT 77667-26-6P 854275-13-1P 854275-14-2P 854275-15-3P 854275-16-4P 872676-90-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(substrate preparation; fluorogenic enzyme activity assay using substrates containing fragmentable linkers)

L39 ANSWER 3 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN  
AN 2005:1046589 HCAPLUS  
DN 144:2517  
ED Entered STN: 30 Sep 2005  
TI Engineering of an electronically decoupled difluoroindacene-pyrene dyad possessing high affinity for DNA  
AU Rostron, James P.; Ulrich, Gilles; Retailleau, Pascal; Harriman, Anthony; Ziessel, Raymond  
CS Molecular Photonics Laboratory, School of Natural Sciences (Chemistry), University of Newcastle, Newcastle upon Tyne, NE1 7RU, UK

SO New Journal of Chemistry (2005), 29(10), 1241-1244  
 CODEN: NJCHE5; ISSN: 1144-0546

PB Royal Society of Chemistry

DT Journal

LA English

CC 9-5 (Biochemical Methods)  
 Section cross-reference(s): 3, 78

AB A highly fluorescent dual-dye, comprising 4,4-difluoro-8-(aryl)-1,3,5,7-tetramethyl-2,6-diethyl-4-bora-3a,4a-diaza-s-indacene and 1-pyrenyl fragments linked orthogonally at the pseudo-meso position, displays a wide choice of excitation wavelengths due to intramol. energy transfer and undergoes efficient fluorescence quenching when bound to double-stranded DNA.

ST electronically decoupled difluoroindacene pyrene dyad DNA affinity fluorometry

IT DNA  
 RL: ANT (Analyte); PEP (Physical, engineering or chemical process); PYP (Physical process); ANST (Analytical study); PROC (Process) (double-stranded; engineering of fluorescent electronically decoupled difluoroindacene-pyrene dyad possessing high affinity for DNA with fluorescence quenching)

IT Crystal structure  
 Fluorescence  
 Fluorescence quenching  
 Fluorescent indicators  
 Fluorometry  
 Intramolecular energy transfer  
 Molecular association  
 Molecular recognition  
 UV and visible spectra  
 (engineering of fluorescent electronically decoupled difluoroindacene-pyrene dyad possessing high affinity for DNA with fluorescence quenching)

IT Formation constant  
 Oxidation, electrochemical  
 Reduction, electrochemical  
 (engineering of fluorescent electronically decoupled difluoroindacene-pyrene dyad possessing high affinity for DNA with fluorescence quenching in relation to)

IT Biosensors  
 Optical sensors  
 (fluorescent; engineering of fluorescent electronically decoupled difluoroindacene-pyrene dyad possessing high affinity for DNA with fluorescence quenching in relation to)

IT Electron delocalization  
 ( $\pi$ ; engineering of fluorescent electronically decoupled difluoroindacene-pyrene dyad possessing high affinity for DNA with fluorescence quenching in relation to)

IT 869860-03-7P  
 RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)  
 (engineering of fluorescent electronically decoupled difluoroindacene-pyrene dyad possessing high affinity for DNA with fluorescence quenching)

IT 869860-04-8P  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)  
 (engineering of fluorescent electronically decoupled difluoroindacene-pyrene dyad possessing high affinity for DNA with fluorescence quenching)

IT 109-63-7 517-22-6, Kryptopyrrole 766-97-2, 4-Ethynyltoluene  
 3029-19-4, 1-Pyrenecarboxaldehyde 250734-48-6

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (engineering of fluorescent electronically decoupled  
 difluorindacene-pyrene dyad possessing high affinity for DNA with  
 fluorescence quenching)

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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L39 ANSWER 4 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2005:394821 HCAPLUS

DN 142:444358

ED Entered STN: 09 May 2005

TI Fluorinated resorufin compounds and their application

IN Batchelor, Robert; Ge, Yue; Gee, Kyle; Johnson, Iain; Leung, Wai-Yee; Liu, Jixiang; Patch, Brian; Smalley, Peter; Steinberg, Thomas

PA USA

SO U.S. Pat. Appl. Publ., 62 pp.

CODEN: USXXCO

DT Patent

LA English

IC ICM A61K-0031/5415

ICS A61K-0031/538; A61K-0031/498

INCL 514224800; 514229800; 514250000; 544046000; 544102000; 544347000

CC 9-5 (Biochemical Methods)

Section cross-reference(s): 7, 15, 28, 41

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
	-----	---	-----	-----	-----	
PI	US2005096315	A1	20050505	2004US-0980139	20041101	<--
	WO2005042504	A1	20050512	2004WO-US36546	20041101	<--
	W:					
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,					
	CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,					
	GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,					
	LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,					
	NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,					
	TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW					
	RW:					
	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,					
	AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,					
	EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO,					
	SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,					
	NE, SN, TD, TG					
PRAI	2003US-516244P	P	20031031			<--

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2005096315	ICM	A61K-0031/5415
	ICS	A61K-0031/538; A61K-0031/498
	INCL	514224800; 514229800; 514250000; 544046000; 544102000; 544347000
	IPCI	A61K0031-5415 [ICM,7]; A61K0031-538 [ICS,7]; A61K0031-5375 [ICS,7,C*]; A61K0031-498 [ICS,7]
	IPCR	A61K0031-498 [I,A]; A61K0031-498 [I,C*]; A61K0031-5375 [I,C*]; A61K0031-538 [I,A]; A61K0031-5415 [I,A]; A61K0031-5415 [I,C*]
	NCL	514/224.800
WO2005042504	IPCI	C07D0265-38 [ICM,7]; C07D0265-00 [ICM,7,C*]; C12Q0001-28 [ICS,7]; C07D0495-04 [ICS,7]; C07D0495-00 [ICS,7,C*]; C07D0413-12 [ICS,7]; C07D0413-00 [ICS,7,C*]; C07D0265-00 [I,C*]; C07D0265-38 [I,A]; C07D0413-00 [I,C*]; C07D0413-12 [I,A]; C07D0495-00 [I,C*]; C07D0495-04 [I,A]; C12Q0001-28 [I,A]; C12Q0001-28 [I,C*]
	ECLA	C07D265/38; C07D413/12+265D+207; C07D495/04+333B+235B
OS	MARPAT	142:444358
AB	The invention provides novel fluorinated resorufin compds. that are of use in a variety of assay formats. Also provided are methods of using the compds. and kits that include a compound of the invention and instructions detailing the use of the compound in one or more assay formats.	
	2,8-Difluoro-10-acetyl-3,7-dihydroxyphenoxazine (I) was prepared from 4-fluororesorcinol and isoamyl nitrate in four steps. I was used in enzyme assays for cyclooxygenase 2, Hb, and glycerol, and in an ELISA for C-reactive protein.	
ST	fluorinated resorufin assay reagent; enzyme assay fluorinated resorufin reagent; ELISA fluorinated resorufin reagent	
IT	Lipopolysaccharides RL: BSU (Biological study, unclassified); BIOL (Biological study) (Escherichia coli, COX-2 activity induced by, detection of; fluorinated resorufin compds. and their use in assays)	
IT	Antibodies and Immunoglobulins RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study) (IgA, antibody to, conjugates with peroxidase; fluorinated resorufin compds. and their use in assays)	
IT	Antibodies and Immunoglobulins RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study) (IgE, antibody to, conjugates with peroxidase; fluorinated resorufin compds. and their use in assays)	
IT	Antibodies and Immunoglobulins RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study) (IgG, antibody to, conjugates with peroxidase; fluorinated resorufin compds. and their use in assays)	
IT	Proteins RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses) (IgG-binding, as carrier mol. linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)	
IT	Macrophage (LPS-induced COX-2 activity in, detection of; fluorinated resorufin compds. and their use in assays)	
IT	Animal cell line (RAW264.7, LPS-induced COX-2 activity in, detection of; fluorinated resorufin compds. and their use in assays)	
IT	Functional groups (acrylamide, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)	
IT	Cyano group	



(acyl, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)

IT Functional groups  
(alkoxycarbonyl groups, activated, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)

IT Samples  
(anal. of; fluorinated resorufin compds. and their use in assays)

IT Functional groups  
(anhydride group, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)

IT Functional groups  
(aniline, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)

IT Cell  
Chelating agents  
Drugs  
Microorganism  
Virus  
(as carrier mol. linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)

IT Agglutinins and Lectins  
Amino acids, biological studies  
Antibodies and Immunoglobulins  
Avidins  
Growth factors, animal  
Haptens  
Hormones, animal, biological studies  
Lipids, biological studies  
Lipopolysaccharides  
Nucleic acids  
Nucleosides, biological studies  
Nucleotides, biological studies  
Oligonucleotides  
Peptides, biological studies  
Polymers, biological studies  
Polysaccharides, biological studies  
Proteins  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(as carrier mol. linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)

IT Cotton fibers  
Magnetic particles  
Membranes, nonbiological  
Microtiter plates  
Particles  
(as solid support linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)

IT Glass beads  
Polyamides, biological studies  
Silica gel, biological studies  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); DEV (Device component use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(as solid support linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)

IT Lipids, biological studies  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(assembly, as carrier mol. linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)

IT Functional groups  
(azido group, acyl, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)

IT Functional groups  
(azido group, fluorinated resorufin compds. containing reactive;

- fluorinated resorufin compds. and their use in assays)
- IT Functional groups  
(aziridine, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)
- IT Functional groups  
(azo, diazoalkyl, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)
- IT Latex  
(beads, as solid support linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)
- IT Spheres  
(beads, plastic, as solid support linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)
- IT Proteins  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(biotin-binding, as carrier mol. linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)
- IT Proteins  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(blood, as carrier mol. linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)
- IT Functional groups  
(boronate, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)
- IT Agglutinins and Lectins  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(conjugates, with fluorinated resorufin compound, for distinguishing between gram-pos. bacteria and gram-pos. bacteria; fluorinated resorufin compds. and their use in assays)
- IT Proteins  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(conjugates, with fluorinated resorufin compound; fluorinated resorufin compds. and their use in assays)
- IT Antibodies and Immunoglobulins  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); CAT (Catalyst use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(conjugates, with horseradish peroxidase; fluorinated resorufin compds. and their use in assays)
- IT Drug screening  
(cytotoxic, fluorinated resorufin compound use in testing for; fluorinated resorufin compds. and their use in assays)
- IT Films  
(derivatized plastic, as solid support linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)
- IT Plastics, biological studies  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); DEV (Device component use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(derivatized, films, as solid support linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)
- IT Metabolism  
(detection of, in cells in samples, for determining viable cells; fluorinated resorufin compds. and their use in assays)
- IT Oxidation  
(determination of peroxide formed by; fluorinated resorufin compds. and their use in assays)
- IT Immunoassay  
(enzyme-linked immunosorbent assay; fluorinated resorufin compds. and their use in assays)
- IT Proteins  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(fluorescent, as carrier mol. linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)

IT Staining, biological  
Stains, biological  
(fluorescent; fluorinated resorufin compds. and their use in assays)

IT pH  
(fluorinated resorufin compound tolerance to; fluorinated resorufin compds. and their use in assays)

IT Cytotoxicity  
(fluorinated resorufin compound use in testing compds. for; fluorinated resorufin compds. and their use in assays)

IT Fluorometry  
Human  
Test kits  
(fluorinated resorufin compds. and their use in assays)

IT C-reactive protein  
Glycerides, analysis  
Hemoglobins  
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)  
(fluorinated resorufin compds. and their use in assays)

IT Amino group  
Formyl group  
Functional groups  
Sulfhydryl group  
(fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)

IT Alkyl halides  
Aryl halides  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); RCT (Reactant); ANST (Analytical study); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)  
(fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)

IT Solids  
(fluorinated resorufin compds. linked to carrier mol. or to supports of; fluorinated resorufin compds. and their use in assays)

IT Fluorescent substances  
(fluorogenic; fluorinated resorufin compds. and their use in assays)

IT Antibodies and Immunoglobulins  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(fragments, as carrier mol. linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)

IT Functional groups  
(haloacetamido, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)

IT Functional groups  
(haloalkyl, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)

IT Functional groups  
(halotriazino, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)

IT Functional groups  
(hydrazino group, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)

IT Functional groups  
(imido ester, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)

IT Buffers  
Catalysts  
(in test kits; fluorinated resorufin compds. and their use in assays)

IT Functional groups  
(isocyanato group, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)

IT Functional groups

(isothiocyanato group, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)

IT Functional groups  
(maleimido, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)

IT Proteins  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(metal-binding, as carrier mol. linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)

IT Biochips  
(microfluidic, as solid support linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)

IT Antibodies and Immunoglobulins  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(monoclonal; fluorinated resorufin compds. and their use in assays)

IT Enzymes, biological studies  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(or enzyme inhibitor, as carrier mol. linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)

IT Dyes  
(oxazine or thiazine; fluorinated resorufin compds. and their use in assays)

IT Particles  
(paramagnetic, as solid support linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)

IT Toxins  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(peptide, as carrier mol. linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)

IT Proteins  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(phosphatidylserine-binding, as carrier mol. linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)

IT Functional groups  
(phosphoramidite, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)

IT Functional groups  
(photoactivatable, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)

IT Alcohols, biological studies  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); DEV (Device component use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(polyhydric, as solid support linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)

IT Microparticles  
(polymeric, as carrier mol. linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)

IT Phosphatidylserines  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(proteins binding, as carrier mol. linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)

IT Functional groups  
(silyl, halides, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)

IT Microscopes  
(slides, as solid support linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)

IT Molecules  
(small, as carrier mol. linked to fluorinated resorufin compds.;

- fluorinated resorufin compds. and their use in assays)
- IT **Fluorescence**  
(stability of, of fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)
- IT **Proteins**  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(structural, as carrier mol. linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)
- IT **Functional groups**  
(succinimidyl ester, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)
- IT **Functional groups**  
(sulfonyl group, halides, fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)
- IT **Particles**  
(superparamagnetic, as solid support linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)
- IT **Firmicutes**  
(wheat germ agglutinin-fluorinated resorufin compound conjugate distinguishing gram-neg. bacteria and; fluorinated resorufin compds. and their use in assays)
- IT **Gram-negative bacteria**  
(wheat germ agglutinin-fluorinated resorufin compound conjugate distinguishing gram-pos. bacteria and; fluorinated resorufin compds. and their use in assays)
- IT 51-67-2D, Tyramine, compds. 66-97-7D, Psoralen, compds. 9004-54-0, Dextran, biological studies 9013-20-1, Streptavidin  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(as carrier mol. linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)
- IT 9002-18-0, Agar 9002-86-2, Polyvinyl chloride 9002-88-4, Polyethylene 9003-01-4 9003-05-8, Poly(acrylamide) 9003-07-0, Polypropylene 9003-53-6, Polystyrene 9004-34-6, Cellulose, biological studies 9004-34-6D, Cellulose, diazo derivs. 9004-70-0, Nitrocellulose 9005-25-8, Starch, biological studies 9005-49-6, Heparin, biological studies 9005-79-2, Glycogen, biological studies 9005-80-5, Inulin 9012-36-6, Sepharose 9036-88-8, Mannan 9037-22-3, Amylopectin 25702-74-3, FICOLL  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); DEV (Device component use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(as solid support linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)
- IT 7440-21-3, Silicon, biological studies  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); DEV (Device component use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(chip, as solid support linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)
- IT 51-67-2, Tyramine 87935-70-4 93801-18-4  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(conjugation with fluorinated resorufin compound; fluorinated resorufin compds. and their use in assays)
- IT 9035-73-8, Oxidase 9046-28-0, Glycerol-3-phosphate oxidase  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); CAT (Catalyst use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(determination of peroxide formed by; fluorinated resorufin compds. and their use in assays)
- IT 9001-37-0, Glucose oxidase 9001-96-1, Pyruvate oxidase 9002-12-4, Uricase 9002-17-9, Xanthine oxidase 9028-67-5, Choline oxidase 9028-76-6, Cholesterol oxidase 9028-79-9, Galactose oxidase 9059-11-4, Amine oxidase 39346-34-4, Glutamate oxidase 61116-22-1, Acyl Co A oxidase 69669-73-4, Glycerol oxidase

- RL: BSU (Biological study, unclassified); CAT (Catalyst use); BIOL (Biological study); USES (Uses)  
(determination of peroxide formed by; fluorinated resorufin compds. and their use in assays)
- IT 56-81-5, Glycerol, analysis 102-76-1, Glyceryl triacetate  
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)  
(fluorinated resorufin compds. and their use in assays)
- IT 9001-62-1, Lipase 37288-11-2, Natuphos 329900-75-6, Cyclooxygenase 2  
RL: ANT (Analyte); BSU (Biological study, unclassified); CAT (Catalyst use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(fluorinated resorufin compds. and their use in assays)
- IT 58-85-5D, Biotin, conjugates with fluorinated resorufin compds.  
635-78-9D, Resorufin, fluorinated compds. 851128-53-5 851128-54-6 851128-55-7  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(fluorinated resorufin compds. and their use in assays)
- IT 69-79-4, Maltose 83-86-3, Phytic acid 9030-19-7, Maltose phosphorylase 9030-66-4, Glycerokinase  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); CAT (Catalyst use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(fluorinated resorufin compds. and their use in assays)
- IT 851128-56-8P  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(fluorinated resorufin compds. and their use in assays)
- IT 851128-52-4P  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(fluorinated resorufin compds. and their use in assays)
- IT 56-65-5, 5'-ATP, analysis 506-32-1, Arachidonic acid 7647-14-5, Sodium chloride, analysis 16009-13-5, Hemin  
RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)  
(fluorinated resorufin compds. and their use in assays)
- IT 95-88-5, 4-Chlororesorcinol 110-46-3, Isoamyl nitrite 124-43-6, Percarbamide 303-07-1, 2-Carboxyresorcinol 619-42-1, Methyl 4-bromobenzoate 698-31-7, 4-Nitrosoresorcinol 5672-89-9 6066-82-6, N-Hydroxysuccinimide 7087-68-5, N,N-Diisopropylethylamine 35770-72-0, 2,4,5-Trifluororesorcinol 75996-29-1, 5-Fluororesorcinol 103068-40-2, 2-Fluororesorcinol 103068-41-3, 4-Fluororesorcinol 133730-34-4, 2,4-Dimethoxybenzeneboronic acid 195136-71-1, 2,4-Difluororesorcinol 288259-39-2 851128-87-5 851128-95-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(fluorinated resorufin compds. and their use in assays)
- IT 109755-36-4P 167627-29-4P 208652-71-5P 851128-57-9P 851128-60-4P 851128-62-6P 851128-73-9P 851128-76-2P 851128-79-5P 851128-82-0P 851128-83-1P 851128-85-3P 851128-89-7P 851128-90-0P 851128-92-2P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(fluorinated resorufin compds. and their use in assays)
- IT 851128-75-1P 851128-78-4P 851128-81-9P 851128-84-2P 851128-86-4P 851128-88-6P 851128-94-4P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(fluorinated resorufin compds. and their use in assays)
- IT 7440-06-4D, Platinum, reactive complexes, compds. with fluorinated resorufins  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); RCT (Reactant); ANST (Analytical study); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

(fluorinated resorufin compds. containing reactive; fluorinated resorufin compds. and their use in assays)

IT 9003-99-0, Peroxidase  
 RL: ANT (Analyte); ARG (Analytical reagent use); BSU (Biological study, unclassified); CAT (Catalyst use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (fluorogenic compound reaction with peroxide in presence of; fluorinated resorufin compds. and their use in assays)

IT 9003-99-0D, Peroxidase, conjugates with carrier 39391-18-9, Cyclooxygenase  
 RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); CAT (Catalyst use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (fluorogenic compound reaction with peroxide in presence of; fluorinated resorufin compds. and their use in assays)

IT 7722-84-1, Hydrogen peroxide, analysis  
 RL: ANT (Analyte); ARU (Analytical role, unclassified); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)  
 (fluorogenic compound reaction with, in presence of peroxidase; fluorinated resorufin compds. and their use in assays)

IT 14915-07-2, Peroxide  
 RL: ANT (Analyte); BSU (Biological study, unclassified); FMU (Formation, unclassified); ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative)  
 (fluorogenic compound reaction with, in presence of peroxidase; fluorinated resorufin compds. and their use in assays)

IT 1344-28-1, Alumina, biological studies  
 RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); DEV (Device component use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (gel, as solid support linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)

IT 851128-91-1P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and conjugation with tyramine; fluorinated resorufin compds. and their use in assays)

IT 851128-93-3P  
 RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (preparation and living cells staining with; fluorinated resorufin compds. and their use in assays)

IT 851128-64-8P 851128-66-0P 851128-68-2P 851128-70-6P 851128-72-8P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and photostability of; fluorinated resorufin compds. and their use in assays)

IT 58-85-5, Biotin  
 RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (proteins binding to, as carrier mol. linked to fluorinated resorufin compds.; fluorinated resorufin compds. and their use in assays)

IT 851128-96-6P  
 RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (use in determining cytotoxicity of test compds.; fluorinated resorufin compds. and their use in assays)

L39 ANSWER 5 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2002:907072 HCAPLUS  
 DN 138:12462  
 ED Entered STN: 29 Nov 2002  
 TI Detection and/or quantification method of a target molecule by a binding with a capture molecule fixed on the surface of a disc

IN Remacle, Jose; Alexandre, Isabelle; Houbion, Yves  
 PA Belg.  
 SO U.S. Pat. Appl. Publ., 38 pp., Cont.-in-part of U. S. Ser. No. 582,817.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 IC ICM C12Q-0001/68  
 ICS G06F-0019/00; G01N-0033/48; G01N-0033/50; C12M-0001/34  
 INCL 435006000; 435287200; 702020000  
 CC 9-1 (Biochemical Methods)  
 Section cross-reference(s): 3  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US2002177144	A1	20021128	2001US-0035822	20011227 <--
	WO---9935499	A1	19990715	1998WO-BE00206	19981224 <--
	W:			AL, AM, AU, BA, BB, BG, BR, CA, CN, CU, CZ, DE, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AZ, BY, KG, KZ, MD, RU, TJ, TM	
	RW:			GH, GM, KE, LS, MW, SD, SZ, UC, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG	
	EP---1420252	A2	20040519	2003EP-0079061	19981224 <--
	EP---1420252	A3	20040804		
	R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI	
	EP---1324042	A2	20030702	2002EP-0447277	20021224 <--
	EP---1324042	A3	20040114		
	R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK	
PRAI	1997US-071726P	P	19971230		<--
	1998WO-BE00206	W	19981224		<--
	2000US-0582817	A2	20001108		<--
	1998EP-0965057	A3	19981224		<--
	2001US-0035822	A	20011227		<--

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2002177144	ICM	C12Q-0001/68
	ICS	G06F-0019/00; G01N-0033/48; G01N-0033/50; C12M-0001/34
	INCL	435006000; 435287200; 702020000
	IPCI	C12Q0001-68 [ICM,7]; G06F0019-00 [ICS,7]; G01N0033-48 [ICS,7]; G01N0033-50 [ICS,7]; C12M0001-34 [ICS,7]
	IPCR	B01J0019-00 [I,A]; B01J0019-00 [I,C*]; B01L0003-00 [I,A]; B01L0003-00 [I,C*]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*]; G01N0033-543 [I,A]; G01N0033-543 [I,C*]; G01N0035-00 [I,A]; G01N0035-00 [I,C*]
	NCL	435/006.000
	ECLA	B01J019/00C; B01L003/00C6M; C12Q001/68B10; G01N033/543K; G01N035/00C2
WO---9935499	IPCI	G01N0033-543 [ICM,6]; C12Q0001-68 [ICS,6]
	IPCR	B01J0019-00 [I,A]; B01J0019-00 [I,C*]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*]; G01N0033-543 [I,A]; G01N0033-543 [I,C*]; G01N0035-00 [I,A]; G01N0035-00 [I,C*]
	ECLA	B01J019/00C; C12Q001/68B10; G01N033/543K; G01N035/00C2
EP---1420252	IPCI	G01N0033-543 [ICM,7]; C12Q0001-68 [ICS,7]; B01J0019-00 [ICS,7]; G01N0035-00 [ICS,7]
	ECLA	G01N033/543K; G01N035/00C2
EP---1324042	IPCI	G01N0033-543 [ICM,7]; C12Q0001-68 [ICS,7]; B01J0019-00 [ICS,7]
	IPCR	B01L0003-00 [I,A]; B01L0003-00 [I,C*]; G01N0033-543 [I,A]; G01N0033-543 [I,C*]; G01N0035-00 [I,A]; G01N0035-00 [I,C*]
	ECLA	B01L003/00C6M; G01N033/543K2; G01N035/00C2; C12Q001/68B10A+565/625



- AB The present invention is related to a method for the detection and/or the quantification of a target mol. by its binding with a non-cleavable capture mol. fixed on the surface of a disk comprising registered data. The present invention is also related to a disk having fixed upon its surface a non-cleavable capture mol., to its preparation process, and to a diagnostic and/or reading device of said disk or comprising said disk. DNA and proteins were detected using compact disks having immobilized capture probes.
- ST target mol detn capture reagent fixed disk; DNA microarray technol compact disk immobilized probe; protein microarray technol compact disk immobilized probe
- IT Functional groups  
(acrylate groups, on polymer for binding capture agents, as layer on disk; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Polycarbonates, preparation  
RL: ARG (Analytical reagent use); DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); ANST (Analytical study); PREP (Preparation); USES (Uses)  
(aminated, CDs, with immobilized capture probe; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Fluorescent substances  
(and fluorophores, as labels; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Chromophores  
Radioactive substances  
(as labels; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Autoimmune disease  
(autoantibodies detection; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Antibodies and Immunoglobulins  
RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(autoantibodies; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Analytical apparatus  
(automated; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Spheres  
(beads, micro-; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Antibodies and Immunoglobulins  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(biotinylated; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Combinatorial library  
(capture agents from biol. library or; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Cytomegalovirus  
Human immunodeficiency virus  
(capture probes on aminated CDs; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Metals, uses  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(colloidal reagents forming ppts.; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Information systems  
(data, disks with immobilized capture agent and registered; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Staphylococcus aureus  
Staphylococcus epidermidis  
Staphylococcus gallinarum  
Staphylococcus hemolyticus  
Staphylococcus hominis  
Staphylococcus saprophyticus

Staphylococcus schleiferi  
 Staphylococcus sciuri  
 Staphylococcus simulans  
 Staphylococcus xylosus  
 (detection of; detection or determination of target mol. by capture mol. fixed  
 on surface of disk)  
 IT Absorption spectroscopy  
 Analytical apparatus  
 Catalysts  
 DNA microarray technology  
 Diagnosis  
 Diffractometry  
 Drug screening  
 Fluorometry  
 Heaters  
 Human  
 Immobilization, molecular or cellular  
 Lasers  
 Magnetic field  
 Magnetic particles  
 Magnetic separation  
 Microarray technology  
 Microtiter plates  
 Nucleic acid amplification (method)  
 Nucleic acid hybridization  
 Optical ROM disks  
 PCR (polymerase chain reaction)  
 Photomultipliers  
 Protein microarray technology  
 Radiochemical analysis  
 Reflection spectroscopy  
 Supported reagents  
 (detection or determination of target mol. by capture mol. fixed on surface of  
 disk)  
 IT DNA  
 Proteins  
 RNA  
 RL: ANT (Analyte); ANST (Analytical study)  
 (detection or determination of target mol. by capture mol. fixed on surface of  
 disk)  
 IT Antigens  
 Carbohydrates, analysis  
 Haptens  
 Lipids, analysis  
 Peptides, analysis  
 Receptors  
 RL: ANT (Analyte); ARG (Analytical reagent use); DEV (Device  
 component use); DGN (Diagnostic use); ANST (Analytical study); BIOL  
 (Biological study); USES (Uses)  
 (detection or determination of target mol. by capture mol. fixed on surface of  
 disk)  
 IT Antibodies and Immunoglobulins  
 Enzymes, analysis  
 Gene expression  
 Ligands  
 Nucleic acids  
 RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical  
 study); BIOL (Biological study); USES (Uses)  
 (detection or determination of target mol. by capture mol. fixed on surface of  
 disk)  
 IT Test kits  
 (diagnostic; detection or determination of target mol. by capture mol. fixed on  
 surface of disk)  
 IT Luminescence spectroscopy  
 (electroluminescence; detection or determination of target mol. by capture mol.  
 fixed on surface of disk)

- IT Luminescent substances  
(electroluminescent, as labels; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Immunoassay  
(enzyme-linked immunosorbent assay; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Gene, microbial  
RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(femA; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT DNA  
RL: ARG (Analytical reagent use); DEV (Device component use); TEM (Technical or engineered material use); ANST (Analytical study); USES (Uses)  
(immobilized, aminated, on CD; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Antibodies and Immunoglobulins  
Enzymes, biological studies  
Ligands  
Oligonucleotides  
RL: ARG (Analytical reagent use); DEV (Device component use); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(immobilized; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Gene, microbial  
RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(mecA; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Oxidation  
(of polymer layer on disk before binding capture agents; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Formyl group  
(on polymer for binding capture agents, as layer on disk; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Albumins, analysis  
RL: ANT (Analyte); ANST (Analytical study)  
(serum; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Polymers, reactions  
RL: DEV (Device component use); RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)  
(with aldehyde groups for binding capture agents, as layer on disk; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT Disks  
(with registered data and immobilized capture agent; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT 2321-07-5, Fluorescein  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(antibodies to, neg. control; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT 9013-20-1, Streptavidin  
RL: ANT (Analyte); ARU (Analytical role, unclassified); ANST (Analytical study)  
(antibodies to, pos. control; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT 125147-73-1, Dynabeads  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(coated with streptavidin; detection or determination of target mol. by capture mol. fixed on surface of disk)
- IT 7440-22-4, Silver, uses  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(colloidal reagents forming ppts.; detection or determination of target mol. by

capture mol. fixed on surface of disk)

IT 58-85-5D, Biotin, conjugates 9003-99-0D, Peroxidase, conjugates with streptavidin  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (detection or determination of target mol. by capture mol. fixed on surface of disk)

IT 9013-20-1D, Streptavidin, conjugates with peroxidase, immobilized on disk  
 RL: ARG (Analytical reagent use); DEV (Device component use); TEM (Technical or engineered material use); ANST (Analytical study); USES (Uses)  
 (detection or determination of target mol. by capture mol. fixed on surface of disk)

IT 7440-57-5, Gold, uses  
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)  
 (detection or determination of target mol. by capture mol. fixed on surface of disk)

IT 476402-56-9 476402-57-0  
 RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)  
 (nucleotide sequence, PCR primer for mecA gene; detection or determination of target mol. by capture mol. fixed on surface of disk)

L39 ANSWER 6 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2002:813032 HCAPLUS  
 DN 139:49311  
 ED Entered STN: 25 Oct 2002  
 TI Three-dimensional redox imaging of frozen-quenched brain and other organs  
 AU Shiino, Akihiko; Matsuda, Masayuki; Chance, Britton  
 CS Department of Neurosurgery, Shiga University of Medical Science, Shiga, 520-2192, Japan  
 SO Methods in Enzymology (2002), 352(Redox Cell Biology and Genetics, Part A), 475-482  
 CODEN: MENZAU; ISSN: 0076-6879  
 PB Academic Press  
 DT Journal  
 LA English  
 CC 9-5 (Biochemical Methods)  
 AB A technique for the low temperature redox scanning of three-dimensional redox images of frozen-quenched brain and other organs is described. The advantages of low-temperature technique include: the nonradiative transfers from the excited state are often diminished at low temps. and the quantum yield of several fluorochromes is enhanced 5- to 10-fold at liquid nitrogen temps., and the integration time of the scanning significantly increases because of the complete arrest of metabolic processes, which allows a high signal-to-noise ratio by signal averaging. The method involves the optimal freezing of the sample; tissue cutting and grinding; fluorescence measurements; and calibration of redox ratio.  
 ST brain redox three dimensional imaging low temp freezing quenching  
 IT Imaging  
 (Three-dimensional redox; three-dimensional redox imaging of frozen-quenched brain and other organs)  
 IT Animal tissue  
 Brain  
 Calibration  
 Fluorescent dyes  
 Fluorometry  
 Freezing  
 Grinding (size reduction)  
 Organ, animal  
 Redox reaction  
 (three-dimensional redox imaging of frozen-quenched brain and other organs)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE

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L39 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:722184 HCAPLUS

DN 138:69271

ED Entered STN: 24 Sep 2002

TI Detection of trace Cu<sup>II</sup> by a designed calix[4]arene based fluorescent reagent

AU Ma, Huimin; Ma, Quanli; Su, Meihong; Nie, Lihua; Han, Huiwan; Xiong, Shaoxiang; Xin, Bin; Liu, Guoquan

CS Chinese Academy of Sciences, Institute of Chemistry, Center for Molecular Sciences, Beijing, 100080, Peop. Rep. China

SO New Journal of Chemistry (2002), 26(10), 1456-1460

CODEN: NJCHE5; ISSN: 1144-0546

PB Royal Society of Chemistry

DT Journal

LA English

CC 9-5 (Biochemical Methods)

AB A highly Cu<sup>2+</sup> selective calix[4]arene based fluorescent reagent, 5,17-bis(4-methylcoumarin-7-azo)-25,26,27,28-tetrahydroxycalix[4]arene, has been designed, synthesized and evaluated. The reagent exhibits excellent selectivity for Cu<sup>2+</sup> over a wide range of alkali, alkaline earth and other transition metal ions. Quenching of its fluorescence due to a strong Cu<sup>2+</sup> affinity, induced binding and selective redox reaction is not influenced by the presence of 20- to 10000-fold excesses of Al<sup>3+</sup>, Ca<sup>2+</sup>, Cd<sup>2+</sup>, Co<sup>2+</sup>, Cr<sup>3+</sup>, Hg<sup>2+</sup>, K<sup>+</sup>, Mg<sup>2+</sup>, Mn<sup>2+</sup>, NH<sub>4</sub><sup>+</sup>, Ni<sup>2+</sup>, Pb<sup>2+</sup>, Zn<sup>2+</sup>, Cl<sup>-</sup>, NO<sub>3</sub><sup>-</sup>, CO<sub>3</sub><sup>2-</sup>, SO<sub>4</sub><sup>2-</sup> or PO<sub>4</sub><sup>3-</sup>. Furthermore, with this fluorescent reagent a simple, sensitive and highly selective method has been developed for measuring trace Cu<sup>2+</sup> in real biol. fluids. The combination of multiple selective responses presented here may provide a useful design strategy for preparing selective reagents of other species.

ST trace copper detn calixarene fluorescence reagent

IT Affinity

Body fluid

Brain

Cerebrospinal fluid

Fluorescent substances

Fluorometry

Human

Molecular recognition

Redox reaction

(trace Cu<sup>II</sup> determination by designed calix[4]arene based fluorescent reagent)

IT 3812-32-6, Carbonate, analysis 7429-90-5, Aluminum, analysis

7439-95-4, Magnesium, analysis 7439-96-5, Manganese, analysis

7440-09-7, Potassium, analysis 7440-50-8, Copper, analysis 7440-66-6,

Zinc, analysis 7440-70-2, Calcium, analysis 14265-44-2, Phosphate,

analysis 14280-50-3, Lead(2+), analysis 14302-87-5, Mercury(2+),

analysis 14701-22-5, Nickel(2+), analysis 14797-55-8, Nitrate,

analysis 14798-03-9, Ammonium, analysis 14808-79-8, Sulfate, analysis

16065-83-1, Chromium(3+), analysis 16887-00-6, Chloride, analysis

22537-48-0, Cadmium(2+), analysis 22541-53-3, Cobalt(2+), analysis

RL: ANT (Analyte); ANST (Analytical study)

(trace Cu<sup>II</sup> determination by designed calix[4]arene based fluorescent reagent)

IT 481047-52-3P 481047-53-4P

RL: ARU (Analytical role, unclassified); SPN (Synthetic preparation); ANST

(Analytical study); PREP (Preparation)

(trace Cu<sup>II</sup> determination by designed calix[4]arene based fluorescent reagent)

IT 26093-31-2 74568-07-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(trace Cu<sup>II</sup> determination by designed calix[4]arene based fluorescent reagent)

IT 113707-85-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)

(trace Cuii determination by designed calix[4]arene based fluorescent reagent)

RE.CNT 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L39 ANSWER 8 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:241379 HCAPLUS

DN 134:363489

ED Entered STN: 05 Apr 2001

TI Effect of albumin on the kinetics of ascorbate oxidation

AU Lozinsky, E.; Novoselsky, A.; Shames, A. I.; Saphier, O.; Likhtenshtein,  
G. I.; Meyerstein, D.

CS Department of Chemistry, Ben-Gurion University of Negev, Beer Sheva,  
84105, Israel

SO Biochimica et Biophysica Acta, General Subjects (2001), 1526(1),

53-60  
 CODEN: BBGSB3; ISSN: 0304-4165  
 PB Elsevier B.V.  
 DT Journal  
 LA English  
 CC 9-2 (Biochemical Methods)  
 AB The fluorescence intensity of the fluorophore in dansyl piperidine-nitroxide is intramolecularly quenched by the nitroxyl fragment. Therefore, the oxidation of ascorbic acid by the fluorophore-nitroxide (FN) probe can be monitored by two independent methods: steady-state fluorescence and ESR. Bovine serum albumin (BSA) affects the rate of this reaction. The influence of BSA on the rate is attributed to the adsorption of both ascorbate and the probe to BSA. Adsorption of ascorbate to BSA is confirmed by NMR relaxation expts. The spatial distribution of the mols. on the BSA surface changes the availability of ascorbate and FN to each other. The results also point out that, in the presence of BSA, the autoxidn. of ascorbate is significantly slowed down. The effect is studied at different pH values and explained in terms of the electrostatic interaction between the ascorbate anion and the BSA mol.

ST albumin fluorophore nitroxide ascorbate oxidn  
 IT Oxidation  
     (biol.; effect of albumin on kinetics of ascorbate oxidation probed by fluorophore-nitroxide)  
 IT Adsorption  
     ESR (electron spin resonance)  
     Electrostatic force  
     Fluorescence  
     Reaction kinetics  
     (effect of albumin on kinetics of ascorbate oxidation probed by fluorophore-nitroxide)  
 IT Nitroxides  
     RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
     (effect of albumin on kinetics of ascorbate oxidation probed by fluorophore-nitroxide)  
 IT Fluorescent substances  
     (nitroxide-containing; effect of albumin on kinetics of ascorbate oxidation probed by fluorophore-nitroxide)  
 IT Autoxidation  
     (of ascorbate; effect of albumin on kinetics of ascorbate oxidation probed by fluorophore-nitroxide)  
 IT Albumins, biological studies  
     RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)  
     (serum; effect of albumin on kinetics of ascorbate oxidation probed by fluorophore-nitroxide)  
 IT 50-81-7, Ascorbic acid, analysis  
     RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)  
     (effect of albumin on kinetics of ascorbate oxidation probed by fluorophore-nitroxide)

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD  
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L39 ANSWER 9 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2000:832608 HCAPLUS

DN 134:222367

ED Entered STN: 29 Nov 2000

TI Fluorescence switching by O-dearylation of 7-aryloxycoumarins. Development of novel fluorescence probes to detect reactive oxygen species with high selectivity

AU Setsukinai, Ken-ichi; Urano, Yasuteru; Kikuchi, Kazuya; Higuchi, Tsunehiko; Nagano, Tetsuo

CS Graduate School of Pharmaceutical Sciences, The University of Tokyo, Bunkyo-ku, Tokyo, 113-0033, Japan

SO Perkin 2 (2000), (12), 2453-2457

CODEN: PRKTFO; ISSN: 1470-1820

PB Royal Society of Chemistry

DT Journal

LA English

CC 22-9 (Physical Organic Chemistry)

Section cross-reference(s): 9, 41, 73, 79, 80

OS CASREACT 134:222367

AB Coumarins exhibit fluorescence that is dependent on the nature of their substituents. The strong fluorescence of 7-hydroxycoumarin in aqueous media is completely lost in 7-aryloxycoumarins. Judging from the relation between the electron-donating character of the substituent at the 7-position and the relative quantum efficiency of fluorescence, the authors considered that the fluorescence properties of 7-hydroxycoumarin derivs. can be explained in terms of the intramol. charge transfer (ICT) mechanism. On this basis, the authors designed and synthesized 7-(4'-hydroxyphenoxy)coumarin, 7-(2'-hydroxyphenoxy)coumarin, 7-(4'-aminophenoxy)coumarin and 7-(2'-aminophenoxy)coumarin, which the authors expected would be dearylated by highly reactive O species. These non-fluorescent aryloxycoumarins were dearylated to afford highly fluorescent 7-hydroxycoumarin upon reaction specifically with hydroxyl radical ( $\cdot\text{OH}$ ), but not superoxide ( $\text{O}_2^-$ ),  $\text{H}_2\text{O}_2$  ( $\text{H}_2\text{O}_2$ ), or singlet O ( $^1\text{O}_2$ ). Probably these compds. are applicable as specific fluorescence probes for hydroxyl radicals in an aqueous environment.

ST fluorescence switching dearylation aryloxycoumarin; selective detn oxygen reactive specie

IT Named reagents and solutions

RL: RCT (Reactant); RACT (Reactant or reagent)

(Fenton's; fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxycoumarins)

IT Fenton reaction

Fluorescence

Fluorescent dyes

Fluorescent probes

Inductive effect

Substituent effects

UV and visible spectra

(fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxycoumarins)

IT Reactive oxygen species

RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); PROC (Process); RACT (Reactant or reagent)

(fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxycoumarins)

IT Phenols, reactions

RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT



- (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)  
(fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT Radicals, reactions  
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
(fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT Electron transfer  
(intramol.; fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT Arylation  
(retro; fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT 7758-89-6, Cuprous chloride  
RL: CAT (Catalyst use); USES (Uses)  
(Ullmann coupling catalyst in conversion to aryloxy coumarin; fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT 142044-47-1, 7-Hydroxy coumarin potassium salt  
RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); PROC (Process); RACT (Reactant or reagent)  
(Ullmann coupling in conversion to aryloxy coumarin; fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT 622-50-4, 4-Iodoacetanilide 329318-60-7 329318-61-8  
RL: FMU (Formation, unclassified); RCT (Reactant); FORM (Formation, nonpreparative); RACT (Reactant or reagent)  
(Ullmann coupling in conversion to aryloxy coumarin; fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT 93-35-6, 7-Hydroxy coumarin  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
(Ullmann coupling in conversion to aryloxy coumarin; fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT 540-37-4, 4-Iodoaniline  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(acetylation for Ullmann coupling in conversion to aryloxy coumarin; fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT 19591-17-4  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(attempted Ullmann coupling in conversion to aryloxy coumarin; fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT 7782-44-7, Oxygen, reactions  
RL: FMU (Formation, unclassified); RCT (Reactant); FORM (Formation, nonpreparative); RACT (Reactant or reagent)  
(attempted reaction of aryloxy coumarin with singlet; fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT 7722-84-1, Hydrogen peroxide, reactions 11062-77-4, Superoxide 12030-88-5, Potassium superoxide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(attempted reaction with aryloxy coumarin; fluorescence probes for determination

- of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT 7440-05-3, Palladium, uses 7440-44-0, Carbon, uses  
 RL: CAT (Catalyst use); USES (Uses)  
 (catalyst in conversion of o-nitro group to aminophenyl oxy coumarin derivative; fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT 329318-65-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (conversion to amino derivative; fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT 1493-13-6, Triflic acid  
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
 (de-tert-butylation catalyst; fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT 329318-62-9P 329318-63-0P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (de-tert-butylation in conversion to hydroxyphenyl oxy coumarin; fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT 329318-64-1P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (deacetylation in conversion to aminophenyl oxy coumarin; fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT 7782-44-7D, Oxygen, reactive species  
 RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); PROC (Process); RACT (Reactant or reagent)  
 (fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT 531-59-9, 7-Methoxycoumarin 10387-49-2, 7-Acetoxycoumarin 31005-04-6, 7-Benzoyloxy coumarin  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)  
 (fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT 329318-66-3P 329318-67-4P 329318-68-5P 329318-69-6P  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)  
 (fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT 307965-26-0P  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)  
 (fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT 329318-70-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)
- IT 3352-57-6, Hydroxyl, reactions

RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); RACT (Reactant or reagent)

(potential diagnostic reaction with aryloxy coumarin; fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)

IT 75-89-8, 2,2,2-Trifluoroethanol

RL: RGT (Reagent); RACT (Reactant or reagent)  
(preparation of)

IT 533-58-4, 2-Iodophenol 540-38-5, 4-Iodophenol

RL: RCT (Reactant); RACT (Reactant or reagent)  
(tert-butylation in conversion to aryloxy coumarin; fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)

IT 115-11-7, Isobutene, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)  
(tert-butylation of iodophenols in conversion to aryloxy coumarin; fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)

IT 76673-35-3

RL: RCT (Reactant); RACT (Reactant or reagent)  
(102 precursor in attempted reaction with aryloxy coumarin; fluorescence probes for determination of reactive oxygen species with high selectivity and fluorescence switching by O-dearylation of 7-aryloxy coumarins)

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L39 ANSWER 10 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2000:470142 HCAPLUS

DN 133:249151

ED Entered STN: 12 Jul 2000

TI Redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydroxytetramethylrosmarinic acid, a novel fluorogenic indicator of cellular oxidative activity

AU Chen, C.-S.; Gee, K. R.

CS Molecular Probes, Inc., Eugene, OR, USA  
 SO Free Radical Biology & Medicine (2000), 28(8), 1266-1278  
 CODEN: FRBMEH; ISSN: 0891-5849  
 PB Elsevier Science Inc.  
 DT Journal  
 LA English  
 CC 9-4 (Biochemical Methods)  
 AB The trafficking of 2,3,4,5,6-pentafluorodihydrotetramethylrosamine (PF-H2TMRos, also known as RedoxSensor Red), a new fluorogenic indicator for oxidative activity, was evaluated in a contact-inhibited cell line, normal rat kidney fibroblast (NRK-49F), using quant. fluorescence microscopy. After cells were incubated with 1-5  $\mu$ M dye at 37° for 10 to 30 min, fluorescent staining of its oxidized product (PF-TMRos) distributed in mitochondria and/or lysosomes. This distribution pattern varied depending on the proliferation state of cells. In proliferating cells, PF-H2TMRos was internalized through a nonendocytic pathway, then oxidized in the cytosol, followed by immediate targeting to active mitochondria, resulting in fluorescent staining in this organelle. Photo-oxidation expts. demonstrated that PF-H2TMRos is not directly transported to mitochondria. On the contrary, in contact-inhibited cells whose proliferation is inhibited, PF-H2TMRos enters cells and is transported to lysosomes before it is oxidized. This results in lysosomal rather than mitochondrial staining. In both proliferating and quiescent cell states, subcellular distribution of the oxidized dye PF-TMRos can be altered by treatment with an oxidant (hydrogen peroxide) or an antioxidant (N-acetyl-L-cysteine), indicating a regulatory relationship between cell proliferation and oxidative activity. In solution assay, this probe can be oxidized by a broad spectrum of oxidizing species including horseradish peroxidase, hydrogen peroxide and horseradish peroxidase, cytochrome c, cytochrome c and hydrogen peroxide, superoxide and hydrogen peroxide, nitric oxide (or nitrite), peroxyxynitrite, and lipid hydroperoxide. Based on its subcellular distribution and its oxidation by a broad range of oxidizing species, PF-H2TMRos is demonstrated to be a novel indicator for cellular oxidative stresses.

ST pentafluorodihydrotetramethylrosamine fluorogenic indicator redox dependent cellular oxidative activity

IT Membrane potential  
 Oxidation  
 (biol.; redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydrotetramethylrosamine, a novel fluorogenic indicator of cellular oxidative activity)

IT Staining, biological  
 (fluorescent; redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydrotetramethylrosamine, a novel fluorogenic indicator of cellular oxidative activity)

IT Lipids, biological studies  
 Lipids, biological studies  
 RL: BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent)  
 (hydroperoxides; redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydrotetramethylrosamine, a novel fluorogenic indicator of cellular oxidative activity)

IT Hydroperoxides  
 Hydroperoxides  
 RL: BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent)  
 (lipid; redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydrotetramethylrosamine, a novel fluorogenic indicator of cellular oxidative activity)

IT Animal tissue culture  
 (rat kidney fibroblast (NRK-49F); redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydrotetramethylrosamine, a novel fluorogenic indicator of cellular oxidative activity)

IT Cell proliferation

Fluorescence microscopy  
 Fluorescent indicators  
 Fluorometry  
 Lysosome  
 Mitochondria  
 Oxidative stress, biological

- Redox reaction  
 (redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydrotetramethyl  
 rosamine, a novel fluorogenic indicator of cellular oxidative activity)
- IT Reactive oxygen species  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological  
 study, unclassified); RCT (Reactant); BIOL (Biological study); RACT  
 (Reactant or reagent)  
 (redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydrotetramethyl  
 rosamine, a novel fluorogenic indicator of cellular oxidative activity)
- IT 9003-99-0, Peroxidase  
 RL: CAT (Catalyst use); USES (Uses)  
 (horseradish; redox-dependent trafficking of 2,3,4,5,6-  
 pentafluorodihydrotetramethylrosamine, a novel fluorogenic indicator of  
 cellular oxidative activity)
- IT 7782-44-7P, Oxygen, biological studies  
 RL: BAC (Biological activity or effector, except adverse); BPN  
 (Biosynthetic preparation); BSU (Biological study, unclassified); RCT  
 (Reactant); BIOL (Biological study); PREP (Preparation); RACT (Reactant or  
 reagent)  
 (reactive; redox-dependent trafficking of 2,3,4,5,6-  
 pentafluorodihydrotetramethylrosamine, a novel fluorogenic indicator of  
 cellular oxidative activity)
- IT 105284-17-1 167095-05-8 167095-08-1  
 RL: ARG (Analytical reagent use); BSU (Biological study, unclassified);  
 ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydrotetramethyl  
 rosamine, a novel fluorogenic indicator of cellular oxidative activity)
- IT 62962-75-8 296277-11-7 296277-13-9 296277-15-1  
 RL: ARG (Analytical reagent use); BSU (Biological study, unclassified);  
 FMU (Formation, unclassified); ANST (Analytical study); BIOL (Biological  
 study); FORM (Formation, nonpreparative); USES (Uses)  
 (redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydrotetramethyl  
 rosamine, a novel fluorogenic indicator of cellular oxidative activity)
- IT 296277-09-3P  
 RL: ARG (Analytical reagent use); BSU (Biological study, unclassified);  
 SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological  
 study); PREP (Preparation); USES (Uses)  
 (redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydrotetramethyl  
 rosamine, a novel fluorogenic indicator of cellular oxidative activity)
- IT 11062-77-4P, Superoxide  
 RL: BAC (Biological activity or effector, except adverse); BPN  
 (Biosynthetic preparation); BSU (Biological study, unclassified); RCT  
 (Reactant); BIOL (Biological study); PREP (Preparation); RACT (Reactant or  
 reagent)  
 (redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydrotetramethyl  
 rosamine, a novel fluorogenic indicator of cellular oxidative activity)
- IT 616-91-1, N-Acetyl-L-cysteine  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological  
 study, unclassified); BIOL (Biological study)  
 (redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydrotetramethyl  
 rosamine, a novel fluorogenic indicator of cellular oxidative activity)
- IT 19059-14-4, Peroxynitrite  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological  
 study, unclassified); FMU (Formation, unclassified); RCT (Reactant); BIOL  
 (Biological study); FORM (Formation, nonpreparative); RACT (Reactant or  
 reagent)  
 (redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydrotetramethyl  
 rosamine, a novel fluorogenic indicator of cellular oxidative activity)
- IT 7632-00-0, Sodium nitrite  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological

study, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent)  
 (redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydroxytetramethyl  
 rosamine, a novel fluorogenic indicator of cellular oxidative activity)  
 IT 10102-43-9P, Nitric oxide, biological studies  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)  
 (redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydroxytetramethyl  
 rosamine, a novel fluorogenic indicator of cellular oxidative activity)  
 IT 69-89-6, Xanthine 506-32-1, Arachidonic acid  
 RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)  
 (redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydroxytetramethyl  
 rosamine, a novel fluorogenic indicator of cellular oxidative activity)  
 IT 7722-84-1, Hydrogen peroxide, biological studies  
 RL: BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent)  
 (redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydroxytetramethyl  
 rosamine, a novel fluorogenic indicator of cellular oxidative activity)  
 IT 7782-44-7D, Oxygen, reactive species, biological studies 33876-97-0, SIN-1  
 RL: BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent)  
 (redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydroxytetramethyl  
 rosamine, a novel fluorogenic indicator of cellular oxidative activity)  
 IT 9002-17-9, Xanthine oxidase 9007-43-6, Cytochrome c, uses 80619-02-9, 5-Lipoxygenase  
 RL: CAT (Catalyst use); USES (Uses)  
 (redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydroxytetramethyl  
 rosamine, a novel fluorogenic indicator of cellular oxidative activity)  
 IT 99-07-0, 3-Dimethylaminophenol 653-37-2, Pentafluorobenzaldehyde 7439-89-6, Iron, reactions 136587-13-8, Spermine NONOate  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (redox-dependent trafficking of 2,3,4,5,6-pentafluorodihydroxytetramethyl  
 rosamine, a novel fluorogenic indicator of cellular oxidative activity)  
 RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L39 ANSWER 11 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2000:453597 HCAPLUS

DN 133:219655

ED Entered STN: 06 Jul 2000

TI The fluorescent oxidation products of dihydroxyphenylalanine and its esters

AU Smith, G. J.; Haskell, T. G.

CS New Zealand Institute for Industrial Research, Lower Hutt, N. Z.

SO Journal of Photochemistry and Photobiology, B: Biology (2000), 55(2-3), 103-108

CODEN: JPPBEG; ISSN: 1011-1344

PB Elsevier Science S.A.

DT Journal

LA English

CC 9-5 (Biochemical Methods)

AB Dihydroxyphenylalanine (DOPA), its Me ester (DOPAM) and the N-acetylated derivative of the ester (DOPAMNA) are found to undergo rapid oxidation in air-saturated alkaline solution. Some of the products of oxidation exhibit fluorescent emission in the 300-500 nm spectral range and their excitation-emission spectra have been determined in acidic and alkaline aqueous solns. The spectral distributions and positions of the maxima depend on the pH of the solution. Excitation-emission maxima associated with the protonated phenolic form of the compds. occur at shorter wavelengths than those of the conjugate base. At some pH values the phenolic forms of these mols. are excited and undergo rapid deprotonation in the excited state; as a consequence, emission is observed from the phenolate anion. The fluorescence excitation-emission spectrum of an authentic sample of 3,4-dihydroxycinnamic (caffeic) acid has also been determined and features of the fluorescence spectra of the principal oxidation products are consistent with the presence of 3,4-hydroxycinnamoyl compds. in solns. of oxidized DOPAM and DOPAMNA.

ST fluorescence oxidn product dihydroxyphenylalanine ester

IT Fluorescent substances

Fluorometry

Oxidation

(fluorescent oxidation products of dihydroxyphenylalanine and its esters)

IT 39740-33-5

RL: ANT (Analyte); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)

(N-Acetyl-3,4-dihydroxyphenylalanine Me ester; fluorescent oxidation products of dihydroxyphenylalanine and its esters)

IT 59-92-7, DOPA, analysis 7101-51-1, L-DOPA methyl ester

RL: ANT (Analyte); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)

(fluorescent oxidation products of dihydroxyphenylalanine and its esters)

IT 331-39-5, Caffeic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

(fluorescent oxidation products of dihydroxyphenylalanine and its esters)

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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L39 ANSWER 12 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1999:487468 HCAPLUS

DN 131:127388

ED Entered STN: 06 Aug 1999

TI Detection system using liposomes and signal modification

IN Nicklin, Stephen; Clarke, David John; Lloyd, Christopher James; Aojula, Harmesh Singh; Tsilosani, Marina; Wilson, Michael Thomas

PA The Secretary of State for Defence, UK

SO PCT Int. Appl., 111 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM G01N-0033/542

ICS G01N-0033/543; G01N-0033/58; G01N-0033/52

CC 9-5 (Biochemical Methods)

Section cross-reference(s): 79, 80

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO---9938009	A1	19990729	1999WO-GB00208	19990121 <--
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
ZA---9900325	A	19990719	1999ZA-0000325	19990118 <--
CA---2318170	AA	19990729	1999CA-2318170	19990121 <--
AU---9921770	A1	19990809	1999AU-0021770	19990121 <--
AU---749955	B2	20020704		
EP---1049932	A1	20001108	1999EP-0901770	19990121 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP2003513225	T2	20030408	2000JP-0528866	19990121 <--
TW---571099	B	20040111	TW 1999-88101190	19990127 <--
US---6743638	B1	20040601	2000US-0600118	20000712 <--
NO2000003709	A	20000921	2000NO-0003709	20000719 <--
PRAI 1998GB-0001120	A	19980121	<--	
1999WO-GB00208	W	19990121	<--	

CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES



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WO 9938009      ICM      G01N-0033/542
                  ICS      G01N-0033/543; G01N-0033/58; G01N-0033/52
                  IPCI     G01N0033-542 [ICM,6]; G01N0033-536 [ICM,6,C*];
                           G01N0033-543 [ICS,6]; G01N0033-58 [ICS,6]; G01N0033-52
                           [ICS,6]
                  IPCR     G01N0033-52 [I,A]; G01N0033-52 [I,C*]; G01N0033-536
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                           G01N0033-543 [I,C*]; G01N0033-58 [I,A]; G01N0033-58
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ZA---9900325    ECLA      G01N033/52; G01N033/542; G01N033/543D2; G01N033/58H2
                  IPCI     G01N [ICM,6]
                  IPCR     G01N0033-52 [I,A]; G01N0033-52 [I,C*]; G01N0033-536
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                           [I,C*]
CA---2318170    IPCI     G01N0033-542 [ICM,6]; G01N0033-536 [ICM,6,C*];
                           G01N0033-52 [ICS,6]; G01N0033-543 [ICS,6]; G01N0033-58
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                  IPCR     G01N0033-52 [I,A]; G01N0033-52 [I,C*]; G01N0033-536
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                           [I,C*]
EP---1049932    IPCI     G01N0033-542 [ICM,6]; G01N0033-536 [ICM,6,C*];
                           G01N0033-543 [ICS,6]; G01N0033-58 [ICS,6]; G01N0033-52
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                           G01N0033-543 [I,C*]; G01N0033-58 [I,A]; G01N0033-58
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                           [I,C*]; G01N0033-542 [I,A]; G01N0033-543 [I,A];
                           G01N0033-543 [I,C*]; G01N0033-58 [I,A]; G01N0033-58
                           [I,C*]
                  NCL      436/518.000; 422/068.100; 428/402.000; 428/402.200;
                           435/004.000; 435/006.000; 435/007.100; 435/007.900;
                           435/007.920; 435/174.000; 435/176.000; 435/177.000;
                           435/182.000; 435/287.100; 435/287.200; 435/287.300;
                           435/287.600; 435/287.700; 435/808.000; 435/810.000;
                           435/975.000; 436/164.000; 436/172.000; 436/501.000;
                           436/512.000; 436/524.000; 436/528.000; 436/532.000;
                           436/533.000; 436/534.000; 436/823.000; 436/829.000
                  ECLA      G01N033/52; G01N033/542; G01N033/543D2; G01N033/58H2
NO2000003709    IPCI     G01N [ICM,7]
                  IPCR     G01N0033-52 [I,A]; G01N0033-52 [I,C*]; G01N0033-536
                           [I,C*]; G01N0033-542 [I,A]; G01N0033-543 [I,A];
                           G01N0033-543 [I,C*]; G01N0033-58 [I,A]; G01N0033-58
                           [I,C*]

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AB A process for detecting an analyte comprises (a) contacting a sample suspected of containing said analyte with a containment means comprising a barrier which separates signal generating reagents from said sample, in the presence of an element which interacts specifically with said analyte, under conditions whereby interaction between the analyte and the said element results in activation of the signal generating reagents within the

containment means on the side of the barrier opposite to the sample, and (b) detecting any signal generated and retained within the containment means from the sample side of the barrier. The process of the invention provides for sensitive detection of very small nos. of analyte materials using measurement techniques which include counting methods such as flow cytometry. TNT was detected using Tris-HCl pH 7.4, TNP-conjugated melittin as pore-forming reagent, liposomes containing alkaline phosphatase, ELF-97 substrate, and monoclonal antibodies to TNT. Fluorescent liposomes were counted.

- ST liposome fluorescence detection system; TNT fluorescence liposome assay; flow cytometry liposome fluorescence
- IT Surfactants
  - (Triton X compds., in signal modification; sensitive detection system using liposomes and signal modification)
- IT Liposomes
  - Membranes, nonbiological
    - (as containment means, with signal generating reagents inside; sensitive detection system using liposomes and signal modification)
- IT Dyes
  - (as signal reagent; sensitive detection system using liposomes and signal modification)
- IT Avidins
  - RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
    - (biotinylated liposomes aggregation with; sensitive detection system using liposomes and signal modification)
- IT Biological transport
  - (channel-mediated, in activation of signal generating system inside containment means; sensitive detection system using liposomes and signal modification)
- IT Containers
  - (containment means, with signal generating reagents inside; sensitive detection system using liposomes and signal modification)
- IT Cytometry
  - (flow; sensitive detection system using liposomes and signal modification)
- IT Biological transport
  - Signal transduction, biological
    - (in activation of signal generating system inside containment means; sensitive detection system using liposomes and signal modification)
- IT Light
  - pH
    - (in peptide activation of signal generation means; sensitive detection system using liposomes and signal modification)
- IT Hemoglobins
  - Myoglobins
    - RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)
      - (in peroxidn. of nanospheres; sensitive detection system using liposomes and signal modification)
- IT Peptides, biological studies
  - RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); ANST (Analytical study); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)
    - (in signal generation; sensitive detection system using liposomes and signal modification)
- IT Enzymes, uses
  - RL: ARG (Analytical reagent use); CAT (Catalyst use); ANST (Analytical study); USES (Uses)
    - (in signal generation; sensitive detection system using liposomes and signal modification)
- IT Buffers
- Detergents
- Ions

Surfactants  
(in signal modification; sensitive detection system using liposomes and signal modification)

IT **Fluorescent dyes**  
(interaction of, with cobalt ions, in signal generation; sensitive detection system using liposomes and signal modification)

IT **Biological transport**  
(ion, in activation of signal generating system inside containment means; sensitive detection system using liposomes and signal modification)

IT **Chemicals**  
(modifying signal from signal generating reagent, detection of; sensitive detection system using liposomes and signal modification)

IT **Antibodies**  
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(monoclonal, to TNT; sensitive detection system using liposomes and signal modification)

IT **Spheres**  
(nanospheres, as containment means, with signal generating reagents inside; sensitive detection system using liposomes and signal modification)

IT **Peroxidation**  
(of asolectin nanospheres containing carboxyfluorescein; sensitive detection system using liposomes and signal modification)

IT **Fluorescence quenching**  
(of nonspecific signals; sensitive detection system using liposomes and signal modification)

IT **Phospholipids, reactions**  
RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)  
(peroxidn. of nanospheres of, containing carboxyfluorescein; sensitive detection system using liposomes and signal modification)

IT **Permeability**  
(perturbation of, for activation of signal generating system inside containment means; sensitive detection system using liposomes and signal modification)

IT **Surface plasmon**  
(resonance, in signal detection; sensitive detection system using liposomes and signal modification)

IT **Analysis**  
    **Fluorometry**  
    Immunoassay  
    Test kits  
        (sensitive detection system using liposomes and signal modification)

IT **Reagents**  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(signal generating, in containment; sensitive detection system using liposomes and signal modification)

IT **Cardiolipins**  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(signal peptide binding to liposomes response to; sensitive detection system using liposomes and signal modification)

IT **Antibodies**  
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(to analyte; sensitive detection system using liposomes and signal modification)

IT **9002-07-7, Trypsin**  
RL: CAT (Catalyst use); USES (Uses)  
(TAME hydrolysis by, fluorescence monitoring of; sensitive detection system using liposomes and signal modification)

IT **2321-07-5, Fluorescein**  
RL: ARG (Analytical reagent use); BPR (Biological process); BSU

(Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(antibody to, fluorescence quenching with; sensitive detection system using liposomes and signal modification)

IT 58-85-5D, Biotin, conjugates with liposomes  
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(as containment means, with signal generating reagents inside; sensitive detection system using liposomes and signal modification)

IT 234096-65-2  
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); RCT (Reactant); ANST (Analytical study); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)  
(as permeabilizing peptide, pH-switched fluorescent TNT immunoassay with; sensitive detection system using liposomes and signal modification)

IT 234096-63-0  
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(as permeabilizing peptide; sensitive detection system using liposomes and signal modification)

IT 234096-66-3  
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(as pore-forming peptide; sensitive detection system using liposomes and signal modification)

IT 330-13-2, p-Nitrophenylphosphate  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(as quenching agent for ELF-97; sensitive detection system using liposomes and signal modification)

IT 28683-92-3D, derivs.  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(as signal reagents; sensitive detection system using liposomes and signal modification)

IT 103658-63-5 234096-67-4 234750-79-9 234750-97-1  
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(as signaling peptide; sensitive detection system using liposomes and signal modification)

IT 72088-94-9, Carboxyfluorescein  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(asolectin nanospheres containing, peroxidn. of; sensitive detection system using liposomes and signal modification)

IT 68-04-2, Sodium citrate 127-09-3, Sodium acetate 1185-53-1, Tris hydrochloride 7601-54-9, Sodium phosphate  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(buffer containing, in signal modification; sensitive detection system using liposomes and signal modification)

IT 7646-79-9, Cobalt chloride, reactions  
RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)  
(fluorescent dye ELF-97 response to; sensitive detection system using liposomes and signal modification)

IT 9029-60-1, Lipoxxygenase  
RL: CAT (Catalyst use); USES (Uses)  
(in hydroperoxyoctadecadienoic acid preparation; sensitive detection system using liposomes and signal modification)

IT 60-33-3, 9,12-Octadecadienoic acid (9Z,12Z)-, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(in hydroperoxyoctadecadienoic acid preparation; sensitive detection system using liposomes and signal modification)

IT 16009-13-5  
RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study);  
RACT (Reactant or reagent); USES (Uses)  
(in peroxidn. of nanospheres; sensitive detection system using  
liposomes and signal modification)

IT 33964-75-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(in peroxidn. of nanospheres; sensitive detection system using  
liposomes and signal modification)

IT 7440-48-4D, Cobalt, complexes with dyes, reactions  
RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study);  
RACT (Reactant or reagent); USES (Uses)  
(interaction of, with ELF-97 dye, in signal generation; sensitive  
detection system using liposomes and signal modification)

IT 147394-94-3  
RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study);  
RACT (Reactant or reagent); USES (Uses)  
(interaction of, with cobalt ions, in signal generation; sensitive  
detection system using liposomes and signal modification)

IT 555-60-2, CCCP  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(ionophore, liposomes containing pyranine response to liposome-  
permeabilizing peptide and valinomycin and; sensitive detection system  
using liposomes and signal modification)

IT 234750-78-8  
RL: ARG (Analytical reagent use); BPR (Biological process); BSU  
(Biological study, unclassified); PRP (Properties); ANST (Analytical  
study); BIOL (Biological study); PROC (Process); USES (Uses)  
(liposome-permeabilizing peptide, liposomes containing pyranine response to  
valinomycin and ionophore and; sensitive detection system using  
liposomes and signal modification)

IT 2001-95-8, Valinomycin  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(liposomes containing pyranine response to liposome-permeabilizing peptide  
and ionophore and; sensitive detection system using liposomes and  
signal modification)

IT 9001-78-9  
RL: ARG (Analytical reagent use); CAT (Catalyst use); ANST (Analytical  
study); USES (Uses)  
(liposomes containing, fluorescent dye ELF-97 activation and containment  
in; sensitive detection system using liposomes and signal modification)

IT 6358-69-6, Pyranine  
RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical  
study); USES (Uses)  
(liposomes containing, liposome-permeabilizing peptide and ionophore and  
valinomycin effect on; sensitive detection system using liposomes and  
signal modification)

IT 234096-62-9  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(liposomes containing; sensitive detection system using liposomes and  
signal modification)

IT 107658-43-5 234096-64-1  
RL: ARG (Analytical reagent use); BPR (Biological process); BSU  
(Biological study, unclassified); PRP (Properties); ANST (Analytical  
study); BIOL (Biological study); PROC (Process); USES (Uses)  
(pH-switched activity of; sensitive detection system using liposomes  
and signal modification)

IT 118-96-7, TNT  
RL: ANT (Analyte); ANST (Analytical study)  
(sensitive detection system using liposomes and signal modification)

IT 1461-15-0, Calcein  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(sensitive detection system using liposomes and signal modification)

IT 60-00-4, EDTA, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(sensitive detection system using liposomes and signal modification)  
 IT 2321-07-5D, Fluorescein, phosphatidyl ethanolamine derivs.  
 RL: ARG (Analytical reagent use); BPR (Biological process); BSU  
 (Biological study, unclassified); ANST (Analytical study); BIOL  
 (Biological study); PROC (Process); USES (Uses)  
 (transfer of; sensitive detection system using liposomes and signal  
 modification)  
 IT 901-47-3, TAME  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (trypsin hydrolysis of, fluorescence monitoring of; sensitive detection  
 system using liposomes and signal modification)  
 RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
 (1) Anon; 1996, 3, HCAPLUS  
 (2) Anon; 1998, 20, HCAPLUS  
 (3) Eastman Kodak Company; EP---0255089 A 1988 HCAPLUS  
 (4) Mizoguchi, H; JOURNAL OF FERMENTATION AND BIOENGINEERING 1996, V81(5), P406  
 HCAPLUS  
 (5) Tsukada, S; ANALYTICA CHIMICA ACTA 1998, V371(2-3), P192  
 (6) Tutkimuskeskus, V; WO---9800714 A 1998 HCAPLUS  
 (7) University Of California; WO---9625665 A 1996 HCAPLUS

L39 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1998:790743 HCAPLUS  
 DN 130:35356  
 ED Entered STN: 17 Dec 1998  
 TI Assays employing electrochemiluminescent labels and  
 electrochemiluminescence quenchers  
 IN Richter, Mark M.; Powell, Michael J.; Belisle, Christopher M.  
 PA Boehringer Mannheim Corp., USA  
 SO PCT Int. Appl., 82 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM G01N-0033/542  
 ICS G01N-0033/58; C12Q-0001/68  
 CC 9-5 (Biochemical Methods)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO---9853316	A1	19981126	1998WO-US09552	19980511 <--
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	CA---2261758	AA	19981126	1998CA-2261758	19980511 <--
	EP---914612	A1	19990512	1998EP-0923375	19980511 <--
	EP---914612	B1	20030716		
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	JP2000517058	T2	20001219	1998JP-0550421	19980511 <--
	EP---1359416	A2	20031105	2003EP-0015594	19980511 <--
	EP---1359416	A3	20040519		
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	ES---2202860	T3	20040401	1998ES-0923375	19980511 <--
	US2006035248	A1	20060216	2005US-0124407	20050509 <--
PRAI	1997US-047605P	P	19970523	<--	
	1998US-0074472	A3	19980507	<--	
	1998EP-0923375	A3	19980511	<--	
	1998WO-US09552	W	19980511	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9853316	ICM	G01N-0033/542
	ICS	G01N-0033/58; C12Q-0001/68
	IPCI	G01N0033-542 [ICM,6]; G01N0033-536 [ICM,6,C*]; G01N0033-58 [ICS,6]; C12Q0001-68 [ICS,6]

US2001023063 IPCR G01N0033-536 [I,C\*]; G01N0033-542 [I,A]; G01N0033-58 [I,A]; G01N0033-58 [I,C\*]  
 ECLA G01N033/542; G01N033/58D  
 IPCI C12Q0001-68 [ICM,7]  
 IPCR G01N0033-536 [I,C\*]; G01N0033-542 [I,A]; G01N0033-58 [I,A]; G01N0033-58 [I,C\*]  
 NCL 435/006.000  
 CA---2261758 ECLA G01N033/542; G01N033/58D  
 IPCI G01N0033-52 [ICM,6]; C12Q0001-25 [ICS,6]; G01N0033-542 [ICS,6]; G01N0033-536 [ICS,6,C\*]; G01N0021-66 [ICS,6]; G01N0021-62 [ICS,6,C\*]; C12Q0001-68 [ICS,6]; G01N0021-76 [ICS,6]  
 IPCR G01N0033-536 [I,C\*]; G01N0033-542 [I,A]; G01N0033-58 [I,A]; G01N0033-58 [I,C\*]  
 EP---914612 IPCI G01N0033-542 [ICM,6]; G01N0033-536 [ICM,6,C\*]; G01N0033-58 [ICS,6]; C12Q0001-68 [ICS,6]  
 IPCR G01N0033-536 [I,C\*]; G01N0033-542 [I,A]; G01N0033-58 [I,A]; G01N0033-58 [I,C\*]  
 JP2000517058 IPCI G01N0033-532 [ICM,7]; G01N0027-416 [ICS,7]; G01N0027-42 [ICS,7]  
 IPCR G01N0033-536 [I,C\*]; G01N0033-542 [I,A]; G01N0033-58 [I,A]; G01N0033-58 [I,C\*]  
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 ECLA G01N033/542; G01N033/58D  
 ES---2202860 IPCI G01N0033-542 [ICM,7]; G01N0033-536 [ICM,7,C\*]; G01N0033-58 [ICS,7]; C12Q0001-68 [ICS,7]  
 IPCR G01N0033-536 [I,C\*]; G01N0033-542 [I,A]; G01N0033-58 [I,A]; G01N0033-58 [I,C\*]  
 US2006035248 IPCI C12Q0001-68 [I,A]  
 NCL 435/006.000  
 ECLA G01N033/542; G01N033/58D

AB This invention pertains to the general field of chemical and biol. assays which employ electrochemiluminescence (ECL), also referred to as electrogenerated chemiluminescence. More particularly, the present invention pertains to certain classes of chemical moieties which strongly quench ECL, and the use of these ECL quenchers in combination with ECL labels, for example, in ECL assay methods which employ an ECL quencher and an ECL label. One class of such quenching moieties are those which comprise at least one benzene moiety. Sub-classes of such quenching moieties are those which comprise at least one phenol moiety, quinone moiety, benzene carboxylic acid, and/or benzene carboxylate moiety.

ST electrochemiluminescence quenching label fluorimetry oligonucleotide

IT Electrolysis

Fluorescence quenching

Fluorescent indicators

Fluorometry

Immobilization, biochemical

Luminescence

Magnetic particles

Oxidation, electrochemical

Test kits

(assays employing electrochemiluminescent labels and electrochemiluminescence quenchers)

IT Antibodies

Antigens

DNA

Enzymes, analysis

Peptides, analysis

Polysaccharides, analysis

RNA

RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)

(assays employing electrochemiluminescent labels and electrochemiluminescence quenchers)

IT Luminescence, chemiluminescence

- (electrochemiluminescence; assays employing electrochemiluminescent labels and electrochemiluminescence quenchers)
- IT 62-23-7, p-Nitrobenzoic acid 84-58-2, 2,3-Dichloro-5,6-dicyano-1,4-benzoquinone 92-69-3, p-Phenylphenol 92-88-6, [1,1'-Biphenyl]-4,4'-diol 98-17-9, m-Trifluoromethylphenol 99-96-7, uses 100-02-7, p-Nitrophenol, uses 102-69-2, Tri-n-propylamine 106-44-5, uses 106-51-4, 1,4-Benzoquinone, uses 108-39-4, uses 108-95-2, Phenol, uses 117-14-6, Anthraquinone-1,5-disulfonic acid 120-80-9, 1,2-Benzenediol, uses 123-31-9, 1,4-Benzenediol, uses 150-13-0, p-Aminobenzoic acid 367-12-4, o-Fluorophenol 371-41-5, p-Fluorophenol 372-20-3, m-Fluorophenol 402-45-9, p-Trifluoromethylphenol 444-30-4, o-Trifluoromethylphenol 644-35-9, o-Propylphenol 645-56-7, p-Propylphenol 1633-14-3, 2,5-Dibromo-1,4-benzoquinone 5416-18-2, 2-Methoxy-3-methyl-1,4-naphthoquinone 9013-20-1, Streptavidin 50525-27-4, Tris(2,2'-bipyridyl)ruthenium(II)chloride hexahydrate 53655-94-0 102822-05-9
- RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(assays employing electrochemiluminescent labels and electrochemiluminescence quenchers)
- IT 7440-04-2D, Osmium, complexes, biological studies 7440-18-8D, Ruthenium, complexes, biological studies 216660-19-4 216660-20-7 216660-21-8 216660-22-9D, 3'-biotinylated 216660-23-0D, 5'-modified, 5'-ruthenium tris(bipyridine) and 3'-biotinylated derivs. 216660-24-1D, ruthenium tris(bipyridine) and biotin terminated
- RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(assays employing electrochemiluminescent labels and electrochemiluminescence quenchers)
- IT 147190-40-7 178811-39-7 178925-21-8 216440-76-5D, succinyl protected derivative 216584-93-9
- RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)  
(assays employing electrochemiluminescent labels and electrochemiluminescence quenchers)
- IT 64-17-5, Ethanol, analysis 1317-61-9, Magnetite, analysis 9002-92-0 9002-93-1, Triton X100
- RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(assays employing electrochemiluminescent labels and electrochemiluminescence quenchers)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Blackburn, G; Clinical Chemistry 1991, V37(9), P1534 HCAPLUS
- (2) Dallakyan, G; 1979, P372 HCAPLUS
- (3) Dallakyan, G; Gidrobiologicheskii Zhurnal 1978, V14(5), P105 HCAPLUS
- (4) Greenway, G; Analyst 1995, V120(10), P2549 HCAPLUS
- (5) Kenten, J; Clinical Chemistry 1991, V37(9), P1626 HCAPLUS
- (6) Tyagi, S; Bio/Technology 1996, V14, P303 HCAPLUS
- (7) Ullman, E; US---4261968 A 1981 HCAPLUS
- (8) Ullman, E; US---5332662 A 1994 HCAPLUS

L39 ANSWER 14 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1992:210536 HCAPLUS

DN 116:210536

ED Entered STN: 31 May 1992

TI Luminescent/paramagnetic probes for detecting order in biological assemblies: transformation of luminescent probes into  $\pi$ -radicals by photochemical reduction

AU Ajtai, Katalin; Burghardt, Thomas P.

CS Dep. Biochem. Mol. Biol., Mayo Found., Rochester, MN, 55905, USA

SO Biochemistry (1992), 31(17), 4275-82

CODEN: BICHAW; ISSN: 0006-2960

DT Journal

LA English

CC 9-5 (Biochemical Methods)

Section cross-reference(s): 6



- AB The spectroscopic methods of fluorescence polarization and ESR (EPR) are used to study order and orientation of extrinsically labeled protein elements of ordered biol. systems. These methods generate complementary information about the order of the system, but a consistent quant. interpretation of the related data is complicated because the signals arise from different donors. A method is introduced that allows detection of both signals from the same donor. Unsubstituted xanthene dyes (eosin, erythrosin, and fluorescein) were irradiated by laser light at their absorption maximum in the presence of different reducing agents. Due to photochem. reduction, the quinoidal structure of the xanthene ring is transformed into a semiquinone, and a  $\pi$ -radical is formed having a characteristic EPR signal of an unpaired electron spin with proton hyperfine interactions. A strong EPR signal is observed from the dye in solution or when specifically attached to a protein following irradiation in the presence of dithiothreitol or cysteine. This technique was applied to the study of skeletal muscle fibers. The fluorescent dye (iodoacetamido)fluorescein was covalently attached to the reactive thiol of the myosin mol. in muscle fibers. Fluorescence polarization and EPR spectroscopy were performed on the labeled fibers in rigor. Both signals indicate a highly ordered system characteristic of cross-bridges bound to actin. The use of the same signal donor for fluorescence and EPR studies of probe order is a promising new technique for the study of order in protein elements of biol. assemblies.
- ST protein order biol assembly luminescent probe; fluorometry protein order biol assembly; ESR protein order biol assembly; photochem redn luminescent probe radical
- IT Spin labels  
(for order detection in biol. systems)
- IT Radicals, miscellaneous  
RL: FORM (Formation, nonpreparative)  
(formation of, from luminescent probes by photochem. reduction)
- IT Electron spin resonance spectrometry  
**Fluorometry**  
(in order and orientation of proteins and biol. system study)
- IT **Reduction, photochemical**  
(of luminescent probes)
- IT Muscle  
(order and orientation in, luminescence/paramagnetic probes for study of)
- IT Proteins, biological studies  
RL: PRP (Properties)  
(order and orientation of, in biol. systems, luminescent/paramagnetic probes for study of)
- IT Myosins  
RL: PRP (Properties)  
(order and orientation of, in muscle, luminescent/paramagnetic probes for study of)
- IT **Fluorescent substances**  
(probes, for order detection in biol. systems)
- IT 2321-07-5 16423-68-0, Erythrosin 17372-87-1, Eosin  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(photochem. reduction of, order detection in biol. systems in relation to)
- IT 63368-54-7P  
RL: PREP (Preparation)  
(preparation of)
- L39 ANSWER 15 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN
- AN 1987:614337 HCAPLUS
- DN 107:214337
- ED Entered STN: 12 Dec 1987
- TI Parinaric acid as a sensitive fluorescent probe for the determination of lipid peroxidation
- AU Kuypers, Frans A.; Van den Berg, Jeroen J. M.; Schalkwijk, Casper; Roelofsen, Ben; Op den Kamp, Jos A. F.
- CS Oakland Res. Inst., Children's Hosp., Oakland, CA, USA
- SO Biochimica et Biophysica Acta, Lipids and Lipid Metabolism (1987)

), 921(2), 266-74  
 CODEN: BBLA6; ISSN: 0005-2760

DT Journal  
 LA English  
 CC 9-5 (Biochemical Methods)  
 Section cross-reference(s): 6

AB The decrease in fluorescence of conjugated polyenic acyl chains is used as a sensitive assay for lipid peroxidn. The fatty acid cis-trans-trans-cis-9,11,13,15-octadecatetraenoic acid (cis-parinaric acid) is introduced into liposomal membranes as free fatty acid or, by using the phosphatidylcholine-specific transfer protein from bovine liver, as 1-palmitoyl-2-cis-parinaroyl-sn-glycero-3-phosphocholine. The peroxidn. process as monitored by the decrease in fluorescence intensity is compared with other peroxidn. assay systems, and applications of the new assay system are discussed.

ST membrane lipid peroxidn detn fluorometry; parinaric acid lipid peroxidn detn; fluorescent probe lipid peroxidn detn

IT **Fluorometry**  
 (lipid peroxidn. determination by, in biomembranes, parinaric acid as probe for)

IT **Peroxidation**  
 (of lipids, determination of, in biomembranes, parinaric acid as fluorescent probe for)

IT **Fluorescence**  
 (of parinaric acid in phosphatidylcholine liposomes, lipid peroxidn. in relation to)

IT **Lipids, biological studies**  
 RL: BIOL (Biological study)  
 (peroxidn. of, determination of, in biomembranes, parinaric acid as fluorescent probe for)

IT **Membrane, biological**  
 (bilayer, peroxidn. determination in liposome, parinaric acid as fluorescent probe for)

IT **Fluorescent substances**  
 (probes, parinaric acid as, for lipid peroxidn. determination in biomembranes)

IT 593-38-4, cis-Parinaric acid 83349-96-6  
 RL: ANST (Analytical study)  
 (fluorescent probe, for lipid peroxidn. determination in biomembranes)

IT 7722-84-1, Hydrogen peroxide, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (peroxidn. induction by copper and, determination of, in parinaric acid-containing liposomes)

IT 7440-50-8, Copper, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (peroxidn. induction by hydrogen peroxide and, determination of, in parinaric acid-containing liposomes)

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FILE 'BIOSIS' ENTERED AT 16:09:51 ON 12 JUN 2006  
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FILE COVERS 1969 TO DATE.  
 CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT  
 FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 7 June 2006 (20060607/ED)

=> d all 151 tot

L51 ANSWER 1 OF 1 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN  
 AN 2001:378376 BIOSIS  
 DN PREV200100378376  
 TI Method for the simultaneous determination of biomolecular interactions by

means of plasmon resonance and fluorescence detection.

AU Herrmann, Rupert [Inventor, Reprint author]; Sluka, Peter  
[Inventor]; Knoll, Wolfgang [Inventor]; Liebermann, Thorstein [Inventor]  
CS Weilheim, Germany  
ASSIGNEE: Roche Diagnostics GmbH, Mannheim, Germany  
PI US---6194223 20010227  
SO Official Gazette of the United States Patent and Trademark Office Patents,  
(Feb. 27, 2001) Vol. 1243, No. 4. e-file.  
CODEN: OGUPE7. ISSN: 0098-1133.

DT Patent  
LA English  
ED Entered STN: 8 Aug 2001  
Last Updated on STN: 19 Feb 2002

AB A method for the detection of an analyte is described which is  
characterized in that the binding of the analyte to a solid phase is  
determined by the independent analysis of the signals from a plasmon  
resonance measurement and a fluorescence measurement.

NCL 436518000  
CC General biology - Miscellaneous 00532  
IT Major Concepts  
Biochemistry and Molecular Biophysics; Methods and Techniques  
IT Chemicals & Biochemicals  
analyte: detection, solid phase binding  
IT Methods & Equipment  
fluorescence detection: detection method; plasmon resonance measurement:  
measurement method  
IT Miscellaneous Descriptors  
simultaneous biomolecular interaction determination

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(FILE 'HOME' ENTERED AT 15:02:26 ON 12 JUN 2006)

FILE 'HCAPLUS' ENTERED AT 15:02:32 ON 12 JUN 2006

L1 1 US2004234945/PN OR (US2004-766547 OR DE2003-10303265)/AP,PRN  
E HORN C/AU  
L2 84 E3-10,E15  
E JOSEL H/AU  
L3 42 E4,E6  
E SPINKE J/AU  
L4 28 E3-5  
E HERRMAN R/AU  
L5 8 E3-6  
E HERRMANN R/AU  
L6 568 E3-10  
E HERRMANN RUPERT/AU  
L7 54 E3-4  
E HEINDL D/AU  
L8 46 E3-4,E6  
E FLUOROMETRY/CT  
L9 23697 E3-26  
E E3+ALL  
L10 26787 E4+NT  
E E26  
L11 94407 E3-39,E41-49,E53-57  
E E3+ALL  
L12 96098 E4+NT  
E E23+ALL  
E E4  
E FLUOROMETERS/CT  
L13 3364 E3-12  
E E3+ALL  
L14 3364 E10  
L15 126695 L9-14  
E REDOX/CT

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      E E3+ALL
L16      477 E3
      E E9
      E E3+ALL
L17      360 E3+OLD
      E E8+ALL
L18      473707 E2+NT
      E E2
L19      27289 E3-24
L20      2032 L15 AND L16-19
L21      1173457 (BIOCHEM?(L)METHOD? OR ANALYT? (L) CHEM?)/SC,SX
L22      321 L21 AND L20
L23      258 L20 AND ANT/RL
L24      396 L22-23
      E FLUORESCENT/CT
      E E12+ALL
      E E2
L25      12004 E3-13
      E E3+ALL
L26      25282 E4+OLD,NT
L27      56 L24 AND L25-26
L28      1 L27 AND L1-8
L29      55 L27 NOT L28
      E FLUORESCENCE QUENCH/CT
L30      11746 E4-7
      E E4+ALL
L31      11746 E4
L32      5 L29 AND L30-31
L33      2 L32 AND (PY<=2003 OR AY<=2003 OR PRY<=2003)
L34      50 L29 NOT L32-33
L35      24 L34 AND (PY<=2003 OR AY<=2003 OR PRY<=2003)
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L36      9 E1-18 AND L35
L37      3 L34-36 AND QUENCH?/CW,CT,BI,SX,SC
L38      15 L32-33,L36,L37
L39      15 L38 AND L1-37

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L41      10 L40 AND ANALYTE#
      E HORN C/AU
L42      121 E3-15,E17
      E JOSEL H/AU
L43      25 E4-5
      E SPINKE J/AU
L44      10 E3-4
      E HERRMANN R/AU
L45      626 E3-14
      E HERRMANN RUPERT/AU
L46      9 E3
      E HEINDL D/AU
L47      13 E3-4
L48      0 L42-47 AND L40
L49      11 L42-47 AND FLUORESC?
L50      0 L49 AND QUENCH?
      SEL L49 AN 4
L51      1 E1 AND L49

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